

Appln No. 10/712,364
Amdt date February 24, 2006
Reply to Office action of January 5, 2006

REMARKS/ARGUMENTS

Reconsideration of the application is respectfully requested. Currently claims 16 - 21 are pending in the application. Claims 16 and 19 have been amended.

Claims 16, 17, 19, 20 and 21 have been rejected as allegedly anticipated by Jones. It is respectfully submitted that the claims pending in the application as amended are not anticipated by Jones. Claims 16 recites a semi-conductor wafer machining method for machining a semi-conductor wafer having a patterned surface covered with a dicing tape comprising the steps of carrying out an entire cut through the semi-conductor wafer with a cutting blade to form lateral surfaces and partially cutting the dicing tape and forming chippings at lower edges of the lateral surfaces, and irradiating the lateral surfaces and the chippings with laser light to form a modified layer by melting. A problem with handling semi-conductor wafers after they have been machined or cut is that chippings form along lower edges of the lateral surfaces which weakens the wafer. Consequently, during handling, i.e. pick-up and assembling operations, the wafers become damaged due to the lateral edges weakened because of the chippings. The novel machining method of the present invention addresses this problem by strengthening the cut surface by irradiating the cut surface and the chippings with laser light to form a stronger and modified layer by melting. The modified layer is stronger and can be, for example, an oxidized layer. Consequently, the wafers are prevented from being broken in picking-up and assembling operations.

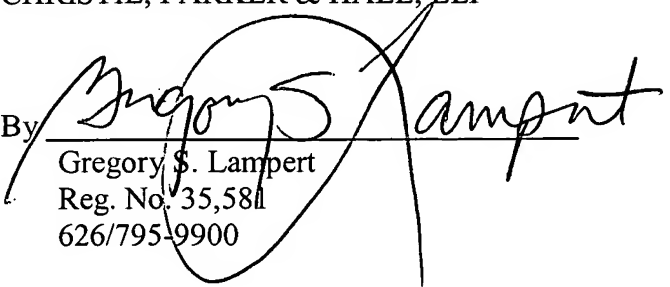
On the contrary, the cited reference of Jones does not recognize or address this problem. Jones discloses the removal of sharp edges formed on a slider by irradiating via a laser onto the edge of the slider to smooth the sharp surface. The importance of not having a sharp surface for a slider is to prevent damage to data contained on a disc by the slider in the disc drive. It is respectfully submitted that Jones does not anticipate the claimed invention because it does not disclose the claimed partially cutting the dicing tape, forming of chippings or the claimed irradiating the chippings with laser light to form the modified layer.

Appln No. 10/712,364
Amdt date February 24, 2006
Reply to Office action of January 5, 2006

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is now in condition for allowance, and, accordingly, early indication thereof is respectfully requested.

Respectfully submitted,
CHRISTIE, PARKER & HALE, LLP

By


Gregory S. Lampert
Reg. No. 35,581
626/795-9900

GSL/vsj

VSJ PAS668704.1-* -02/24/06 1:44 PM